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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/941,700	08/30/2001	Masashi Iwami	011076	6221

23850 7590 04/13/2005

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EXAMINER

DAVIS, CYNTHIA L

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 04/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

09/941,700

Applicant(s)

IWAMI ET AL.

Examiner

Cynthia L Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/13/2002</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 7, 11, 17, 21, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Hotta.

Regarding claim 1, a radio base station system permitting path division multiple connection of a plurality of mobile terminal devices is disclosed in Hotta, column 1, line 12 (SDMA/SS-TDMA is the same thing as PDMA; see Matsuoka, column 7, line 66-column 8, line 4). A synchronization window setting unit setting a synchronization window having a predetermined temporal length with a center positioned at a timing of reception of a signal transmitted from each mobile terminal device, and reception disallowing unit disallowing subsequent reception of said signal if a timing of said subsequent reception of said signal is external to said set synchronization window is disclosed in Hotta, column 6, lines 37-38 (if reception was allowed outside the set synch window, there would be little point in setting the window). A transmission timing control unit controlling timings of signal transmission for respective ones of said plurality of mobile terminal devices having path division multiple connection to a specific time slot, to allow said plurality of mobile terminal devices to have their respective synchronization

windows spaced from each other, as appropriate, within said specific time slot is disclosed in column 1, lines 67-68 (disclosing a transmission timing control unit).

Regarding claim 11, setting a synchronization window having a predetermined temporal length with a center positioned at a timing of reception of a signal transmitted from each mobile terminal device; disallowing subsequent reception of said signal if a timing of said subsequent reception of said signal is external to said set synchronization window is disclosed in Hotta, column 6, lines 37-38 (if reception was allowed outside the set synch window, there would be little point in setting the window). Controlling timings of signal transmission for respective ones of said plurality of mobile terminal devices having path division multiple connection to a specific time slot, to allow said plurality of mobile terminal devices to have their respective synchronization windows spaced from each other, as appropriate, within said specific time slot is disclosed in column 1, lines 67-68 (disclosing a transmission timing control unit).

Regarding claim 21, a program used to control a synchronization window in a radio base station system permitting path division multiple connection of a plurality of mobile terminal devices is disclosed in column 1, lines 14-17 of Hotta (Satellites normally comprise computer equipment to carry out their functionalities). Setting a synchronization window having a predetermined temporal length with a center positioned at a timing of reception of a signal transmitted from each mobile terminal device; disallowing subsequent reception of said signal if a timing of said subsequent reception of said signal is external to said set synchronization window is disclosed in Hotta, column 6, lines 37-38 (if reception was allowed outside the set synch window,

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there would be little point in setting the window). Controlling timings of signal transmission for respective ones of said plurality of mobile terminal devices having path division multiple connection to a specific time slot, to allow said plurality of mobile terminal devices to have their respective synchronization windows spaced from each other, as appropriate, within said specific time slot is disclosed in column 1, lines 67-68 (disclosing a transmission timing control unit).

Regarding claims 7, 17, and 27, a synchronization window width control unit controlling widths of said synchronization windows of respective ones of said plurality of mobile terminal devices having said path division multiple connection to said specific time slot, to allow said synchronization windows to be spaced from each other, as appropriate, within said specific time slot is disclosed in Hotta, column 6, lines 37-38 (the width of the synch window may be set).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2, 8, 9, 12, 18, 19, 22, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hotta in view of Takehisa.

Regarding claims 2, 12, and 22, said transmission timing control unit includes: a first control unit controlling said timings of signal transmission to increase a difference in time between said timings of signal transmission for respective ones of said plurality of

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mobile terminal devices having said path division multiple connection, when said plurality of mobile terminal devices have their respective synchronization windows with a reduced interval therebetween; and a second control unit controlling said timings of signal transmission to decrease a difference in time between said timings of signal transmission for respective ones of said plurality of mobile terminal devices having said path division multiple connection, when said plurality of mobile terminal devices have their respective synchronization windows with an increased interval therebetween are missing from Hotta. However, Takehisa discloses in paragraphs 25-30 a system that increases or decreases the size of synchronization windows, which would also increase or decrease the interval between the synchronization information contained within the windows. It would have been obvious to one skilled in the art to increase or decrease the intervals between synchronization windows in the system of Hotta. The motivation would be to have the system respond to changing conditions (see Takehisa, paragraphs 6-8, "problem to be solved by the invention").

Regarding claims 8, 18, and 28, said synchronization window width control unit includes a fifth control unit reducing a width of said synchronization window of said mobile terminal device transmitting a signal received at a timing constant over a predetermined period of time is missing from Hotta. However, Takehisa discloses in paragraphs 27, 29, and 30 making a synch window smaller in response to changing conditions. It would have been obvious to one skilled in the art at the time of the invention to reduce the size of the synch window. The motivation would be to respond to changing conditions in the system.

Regarding claims 9, 19, and 29, said synchronization window control unit includes a sixth control unit increasing a width of said synchronization window when a reception error is introduced with said mobile terminal device having the width of said synchronization window reduced is missing from Hotta. However, Takehisa discloses in paragraphs 25, 26, and 28 making a synch window larger in response to errors in the system. It would have been obvious to one skilled in the art at the time of the invention to increase the size of the synch window. The motivation would be to respond to changing conditions in the system and reduce transmission errors.

4. Claims 3, 4, 6, 13, 14, 16, 23, 24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hotta in view of Profumo.

Regarding claims 3, 13, and 23, said transmission timing control unit includes a third control unit at least partially canceling said path division multiple connection to said specific time slot when at least two said mobile terminal devices having said path division multiple connection have their respective synchronization windows overlapping, after said transmission timing control unit controls said timings of transmission is missing from Hotta. However, Profumo discloses in column 2, lines 46-50, cancellation of overlapping signals. It would have been obvious to one skilled in the art at the time of the invention to cancel overlapping signals. The motivation would be to not let the signals interfere with each other, so all signals may be received clearly.

Regarding claims 4, 14, and 24, said third control unit includes a first connection unit connecting to a different time slot of the radio base station system any of said

plurality of mobile terminal devices having said path division multiple connection is disclosed in Hotta, column 3, line 67-column 4, line 2.

Regarding claims 6, 16, and 26, said transmission timing control unit includes a fourth control unit excluding from said synchronization window of each of at least two said mobile terminal devices having said path division multiple connection an overlap of said at least two synchronization windows when said at least two mobile terminal devices have their respective synchronization windows overlapping, after said transmission timing control unit controls said timings of transmission is missing from Hotta. However, Profumo discloses in column 2, lines 46-50, cancellation of overlapping signals. It would have been obvious to one skilled in the art at the time of the invention to cancel overlapping signals. The motivation would be to not let the signals interfere with each other, so all signals may be received clearly.

5. Claims 5, 15, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hotta in view of Profumo in further view of Persson.

Regarding claims 5, 15, and 25, said third control unit includes a second connection unit connecting to a time slot of a different radio base station system any of said plurality of mobile terminal devices having said path division multiple connection is missing from Hotta. However, Persson discloses in column 18, lines 11-15, a mobile station connecting to a different base station if the one it prefers does not have the resources available to allow it to connect. It would have been obvious to one skilled in the art at the time of the invention to have the mobile stations of Hotta connect to another base station if their connection to the first base station is cancelled. The

motivation would be to allow the mobile station to find connectivity resources elsewhere if they are not available at the first base station.

6. Claims 10, 20, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hotta in view of Kobayashi.

Regarding claims 10, 20, and 30, said synchronization window width control unit includes a seventh control unit reducing widths of said synchronization windows of respective ones of said mobile terminal devices having said path division multiple connection to said specific time slot, if a number of said mobile terminal devices having said path division multiple connection to said specific time slot is increased is missing from Hotta. However, Kobayashi discloses in column 14, lines 36-47, a TDMA system that changes its slot sizes to accommodate an increased number of connected mobile station. It would have been obvious to one skilled in the art at the time of the invention to reduce the synch window size to accommodate more mobile stations in the system of Hotta. The motivation would be to allow more stations to connect to the base station.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia L Davis whose telephone number is (571) 272-3117. The examiner can normally be reached on 8:30 to 6, Monday to Thursday.

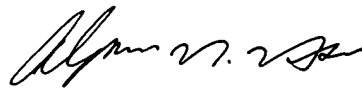
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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ALPUS H. HSU
PRIMARY EXAMINER